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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,121	12/17/2003	Hiroshi Gotoh	246602US2	6032
22850	7590	12/12/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			NGUYEN, JOSEPH H	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/737,121

Applicant(s)

GOTOH ET AL.

Examiner

Joseph Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,8-22 and 26-63 is/are pending in the application.
- 4a) Of the above claim(s) 17-22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-63 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8-16 and 26-37 is/are rejected.
- 7) ☒ Claim(s) 38-63 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/14/05, 9/6/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-4, 8-16 and 26-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 26, the recitation that CX1 is in the range of at least 0.1 at% and CX2 is in the range of at least 0.1 at% is indefinite because the values of CX1 and CX2 can be 0.1 and substitute these values into the formulas (I) and (II), the conditions of these formulas are not satisfied. Further, there is no "range" with only one limit 0.1 specified. As such, this limitation renders claims 1 and 26 indefinite.

Claims 3-4, 8-16 and 27-37 are also rejected due to their dependency upon the rejected base claims 1 and 26.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 10, 5-16, 26-28, 31 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. in view of Hagihara et al. (US 2003/0047812)

Regarding claims 1 and 26, Inoue et al. discloses in figure 2 an electronic device comprising a first electrode 13 including a metal oxide (col. 7, lines 7-13); and a second electrode 8 including an aluminum alloy film (col. 5, lines 49-56), said second electrode being directly contacted and electrically connected to said first electrode. It is inherent that part of the alloy component constituting the aluminum alloy exists as a precipitate since the aluminum alloy film 8 is in solid form and must have one of the alloy components as a precipitate. Inoue et al. does not disclose the aluminum alloy film including Zn in the range of at least 0.1 at% and Nd (Co for claim 26) in the range of at least 0.1 at% satisfying the formula $0.2 \leq 0.5 \times CX1 + CX2 \leq 4.5$ (I) or $0.4 \leq 0.5 \times CX1 + CX2 \leq 6$ (II) for claim 26, wherein CX1 as at% of Zn and CX2 as at% of Nd (Co for claim 26). However, Hagihara et al. discloses in para [0025] the aluminum alloy film including Zn in the range of 0.1 at% and Nd (Co) in the range of 0.1 at% satisfying the formula $0.2 \leq 0.5 \times CX1 + CX2 \leq 4.5$ (I) or $0.4 \leq 0.5 \times CX1 + CX2 \leq 6$ (II), wherein CX1 as at% of Zn and CX2 as at% of Nd (Co). It is noted that substitute values of CX1 = 1 and CX2 = 1 in the formulas (I) and (II), the conditions of the formulas (I) and (II) as claimed are satisfied. In view of such teaching, it would have been obvious at the time of the present invention to modify Inoue et al. by having the aluminum alloy film including Zn in the range of 0.1 at% and Nd (Co) in the range of 0.1 at% satisfying the formula $0.2 \leq 0.5 \times CX1 + CX2 \leq 4.5$ or $0.4 \leq 0.5 \times CX1 + CX2 \leq 6$ (II) to obtain a metal film of low specific resistance and low hardness (para [0018], lines 11-13).

Regarding claims 3 and 27, Inoue et al. discloses the metal oxide 13 is indium tin oxide (col. 7, lines 7-13).

Regarding claims 4 and 28, Hagihara et al. discloses the aluminum alloy film contains at least Ni as its alloy component (para [0025], lines 5-8).

Regarding claims 10 and 31, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Inoue et al. and Hagihara et al. by having the area factor of the precipitate exceeding 0.5%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 15 and 36, Inoue et al. discloses in figure 2 the electronic comprises a thin film transistor (col. 6, line 26) arranged on a glass substrate 1 (col. 6, line 40) and the thin film transistor is electrically connected to the first electrode through the aluminum alloy film.

Regarding claims 16 and 37, Inoue et al. discloses the first electrode 13 is a pixel electrode (col. 7, line 13) and the electronic device is a display device (col. 15, line 66).

Allowable Subject Matter

Claims 38-63 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The reference (s) of record do not teach or suggest, either singularly or in combination at least the limitation of "in the contact interface between said aluminum alloy film and said first electrode, at least a part of alloy components constituting said

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aluminum alloy film exist as a precipitate, wherein a particle of said precipitate has a size of more than 0.01 μm in major diameter and the number of the particles exceeds 0.13 particle/ 100 μm^2 for claim 38, "in the contact interface between said aluminum alloy film and said first electrode, at least a part of alloy components constituting said aluminum alloy film exist as a precipitate, wherein said aluminum alloy film contains Ni in the range of 0.1 to 6 at% as its alloy component, wherein a particle of said precipitate has a size of more than 0.05 μm in major diameter and the number of the particle exceeds 21 particle 100 μm^2 for 55, "said aluminum alloy film contains Ni in the range of 0.1 to 6 at% as its alloy component, wherein said aluminum alloy film further contains Nd and a particle of said precipitate has a size of more than 0.2 μm in major diameter and the number of the particles exceeds 33 particle/ 100 μm^2 for 60.

Response to Arguments

Applicant's arguments with respect to claims 1, 3-4, 8-16 and 26-37 have been considered but are moot in view of the new ground(s) of rejection.

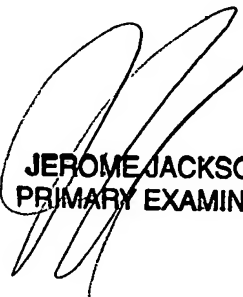
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications.


JEROME JACKSON
PRIMARY EXAMINER

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN
December 5, 2005.



JEROME JACKSON
PRIMARY EXAMINER